

THE USE OF NON-TRADITIONAL STUDENTS AS INDICATORS OF  
THE GENERALIZABILITY OF RESULTS IN MARKETING  
RESEARCH STUDIES USING STUDENT SAMPLES

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### ABSTRACT

Are student samples suitable for marketing research studies. This paper investigates the usefulness of student samples in academic marketing research. An exploratory survey indicates that non-traditional students are more heterogeneous than traditional student samples, and therefore may be more representative of the general population. If this is in fact true, then the academic researcher may be able to devise a student sample to be more representative than they are often thought to be.

### INTRODUCTION

A consistent problem in marketing research has been the extensive use of college students as respondents in marketing research studies by academic marketing researchers. Many authors have expressed concern over the external validity of studies using students as surrogates. Specifically, Albert (1967) felt that students lacked the experience base businessmen use for decision making. Cunningham, Anderson, and Murphy (1973) found that students had a different value structure than non-students. Enis, Cox, and Stafford (1972) stated, "students are psychologically, socially, and demographically different from other segments of the population." They went on to point out that, not surprisingly, male undergraduate business students were poor surrogates for housewives.

Despite the objections to using students in marketing research, several studies have shown that the practice of using students in marketing research is widespread. Bush, Hair, Busch, and Pratt (1975) found that 26% of consumer behavior

articles published between 1964 and 1975 used student samples. Cunningham, Anderson, and Murphy (1974) found that between 20 and 33 percent of the articles they surveyed used students as subjects. Enis, Cox, and Stafford (1972) found that students were used in about one-half of the articles in the Journal of Marketing Research. Finally, Permut, Michel, and Joseph (1976) found that 103 out of 310 articles that identified the sampling used as students. These studies noted are approximately twenty years old, and research needs to be conducted to see if the use of student samples is as widespread in the 1990's as it was in previously.

If students are used for samples in academic marketing research studies, it is because of the high level of convenience and the low cost for the researcher. Enis, Cox, and Stafford (1972) state that the main advantages for the academic researcher is that large number of respondents who are able to follow detailed instructions are available at little or no cost. The drawback is that traditionally students are considered to be atypical of the general population. This means that the external validity of studies done with students may be questionable.

### PREVIOUS RESEARCH

Several studies have been conducted to investigate the external validity of student samples in marketing research. Several authors (Beltramini 1983; Enis, Cox, and Stafford 1972; Hawkins, Albaum, and Best 1977; Sheth 1970) argue that the differences observed between student samples and non-student samples are a result of the different purchasing habits of students and not the result of differences in the underlying mental

process involved. This may be why many authors that fail to find external validity are reluctant to condemn the use of students in research, but merely warn researchers to be careful in generalizing their results.

Sheth (1970) was one of the first marketing researchers to use the experimental method to test the external validity of studies using student surrogates. Sheth's research focused on the role of the experimental setting had on the differences observed between student and non-student samples. Sheth's study compared post-decision dissonance reduction in male graduate students and housewives. When placing them in the identical experimental situation he found no significant difference between the two groups in post decision dissonance in both high-conflict and low-conflict choice situations. Sheth believed that this demonstrated that some of the problems with external validity could be situational.

Cunningham, Anderson, and Murphy (1974) compared 388 non-students with 220 students on seven different sociopsychological variables. They determined that there was a statistically significant difference on all seven on the sociopsychological variables tested. They believed that this indicated that the general validity of research using students was "highly suspect".

Hawkins, Albaum, and Best (1977) studied the question of differences in purchasing behavior versus differences in the underlying psychological process in their study of the attitudes of students and housewives toward different retail outlets. They then compared this with their actual shopping behavior. They found that there was a statistically significant difference between students and housewives in their attitudes towards retail outlets. They also found that these attitudes were accurate predictors of shopping behaviors for both students and housewives. The authors argued that this showed that the underlying psychological processes involved were similar, although their purchasing behaviors were different.

The overall consensus appears to be that student samples are acceptable if internal validity of a study is more important than external validity (Enis, Cox, and Stafford 1972) or if the researcher is more interested in studying the underlying psychological process involved in consumer behavior (Beltramini; Hawkins, Albaum, and Best 1975) and isn't interested in a specific product or service. If the

researcher is more interested in generalizing the results of the study, then student samples should be avoided (Cunningham, Anderson, and Murphy 1974; Enis, Cox, and Stafford 1972) Almost all of researchers agree that the choice should be based on how relevant a student sample would be to the objectives of the study.

### OBJECTIVES OF THE STUDY

The present study has two main objectives. First, the study attempts to determine if non-traditional students are more heterogeneous in their life cycle stages than traditional students. Secondly, the study will try to determine if a significant difference exists between traditional and non-traditional students in attitudes toward products categories. The product category used in this study will be foreign versus domestic products. Attitudes about product quality, cost, and ethocentricity will be studied. Previous research (Han 1988; Johansson, Douglas, and Nonaka 1985) has indicated that preference attitudes on domestic versus foreign products may be dependent on demographic variables.

### METHODOLOGY

#### Hypotheses

To test the first objective of the study, the following hypothesis was developed.

H:A There is a significant difference in life cycle stages represented by traditional versus non-traditional students.

The second objective of the study will test four basic hypotheses, with three different group comparisons for a total of twelve different hypotheses. The four basic hypotheses will look for differences in subjects attitudes on product quality, cost, ethocentricity, and observation of the products country of origin. Three separate groups will be studied: a) traditional versus non-traditional, b) married versus never married, and c) parents versus non-parents

The first set of hypotheses in this section deal with traditional versus non-traditional students' attitudes toward various aspects of purchasing foreign products.

- HB1: There is a significant difference between the attitudes of traditional students and non-traditional students on the quality of products made in the United States and products made in foreign countries.
- HB2: There is a significant difference between the attitudes of traditional students and non-traditional students on the cost of products made in the United States and products made in foreign countries.
- HB3: There is a significant difference between the attitudes of traditional students and non-traditional students on the preference for products made in the United States.
- HB4: There is a significant difference between the attitudes of traditional students and non-traditional students in observing the country of origin when buying a product.

All hypotheses were tested using an alpha level of .05

#### Sample

A convenience sample of undergraduate marketing students from a medium sized state university was used for data collection. A questionnaire was administered in a classroom setting to a convenience sample of introductory marketing students. Ferber (1977) stated that there were three situations in marketing research where a convenience sample was justified. The three situations were 1) exploratory studies, 2) studies illustrating a new methodology, and 3) clinical studies. Since this is an exploratory study, the use of a convenience sample is justified. The number of usable responses was 141. Parent students was the smallest of the comparison groups with a size of 23.

Student respondents were divided into traditional or non-traditional groups based on their age. Students under 25 were placed in the traditional student group, while students over 25 were placed in the non-traditional group. This procedure for dividing the sample into traditional versus non-traditional follows the recommendations of Chartrand (1990). One hundred six (106) of the subjects were found to be traditional students, while 35 respondents were classified as non-traditional students.

## RESULTS

Traditional and non-traditional students were compared on the basis of their life cycle stages (Wells and Gubar 1965). A breakdown of the life cycle classifications for both groups (traditional and non-traditional) indicates that non-traditional students represent more life cycle stages than traditional students. This appears to indicate that non-traditional students are possibly more representative of the general population than traditional students. Hypothesis HA was tested by using ANOVA. The results can be seen in TABLE 1.

TABLE 1  
HA - ANOVA ON LIFE CYCLE DIFFERENCES

	Traditional		Non-Traditional		F Value
	Mean	S.D.	Mean	S.D.	
HA	1.179	0.49	2.60	1.40	80.25

Significant at alpha = .000.

The support for this hypotheses provides support for the concept that non-traditional students are more likely to be representative of the general population than non-traditional students. It is possible that non-traditional students may, in fact be useful indicators of generalizability of using student samples. It also indicates that non-traditional students are more heterogeneous than traditional students. The implication for academic marketing researchers is that studies that use non-traditional students may provide a useful sample. On the other hand, researchers who develop studies that require homogeneity of the sample may require a research design that allows non-traditional students to be separated from traditional students.

## ATTITUDE DIFFERENCES

The second part of the study involves testing the twelve hypotheses involving attitude differences between traditional and non-traditional student groups. The individual groups were compared on their attitudes toward 1) quality of products made in the United States and products made in foreign countries, 2) the cost of products made in the

United States and products made in foreign countries, 3) preferences for products made in the United States, and 4) the observation of the country of origin when buying a product.

The results of these attitude comparisons are provided in Table 2.

TABLE 2  
TRADITIONAL VERSUS NON-TRADITIONAL  
STUDENTS - ATTITUDINAL VARIABLES

	Traditional		Non-Traditional		F
	Mean	S.D.	Mean	S.D.	Value
HB1	7.12	2.00	8.11	2.56	5.58*
HB2	8.24	2.18	8.49	2.27	0.34
HB3	4.80	1.70	5.60	1.61	5.96*
HB4	3.08	1.79	4.57	1.91	17.7*

\*Significant at the alpha = .05

The first hypothesis tested (HB1:) showed that non-traditional students were more likely to associate quality with the country of origin than traditional students. This difference was significant at the .02 level. Hypothesis (HB2:) tested if there was a significant difference between traditional and non-traditional students in the cost of a product and its country of origin. This relationship was not found to be significant at the .05 level. The third hypothesis (HB3:) tested showed that non-traditional students were more likely to buy products produced in the United States than traditional students. The final hypothesis tested (HB4:) found that non-traditional students were more likely to notice the country where a product was produced than were non traditional students.

#### DISCUSSION

A conclusion from the results may be that the differences shown in the study may be a result of age rather than life cycle stage. A post hoc analysis was conducted to analyze the relationship of age to differences in attitude between groups. The age used for defining traditional and non-traditional students was systematically varied from 22 years of age to 28 years of age. The results indicate that the separation of the two groups was maximum at age 25. This seems to indicate that

some kind of change takes place in student attitudes at age 25 (at least concerning foreign versus domestic products). Age appears to be the significant variable when separating students in traditional versus non-traditional groups, not stage in the life cycle. The results of this study indicate that additional research is warranted on using non-traditional student to test the generalizability of research using student surrogates. The next step would be to repeat this study using students and non-students as the test subjects. If non-traditional students are more similar to non-students than they are to traditional students, then academic marketing researchers could better justify the use of student samples. They would still be convenience samples, but they might not have all the biases of a traditional student sample.

It is unlikely that academic marketing researches will stop using student samples. If, as this preliminary study indicates, that non-traditional students are more heterogenous than traditional student samples, then academic researcher may be able devise a student sample to be more representative than they are often thought to be.

#### REFERENCES

References provided on request.